

Claims:

1. A process for preparing aldehydes and alcohols by rhodium-catalyzed hydroformylation of olefins having 6-20 carbon atoms with subsequent separation by distillation of the output from the hydroformylation reaction into the hydroformylation products and a rhodium-containing solution and recirculation of this solution to the hydroformylation reaction,
wherein
the rhodium concentration of the recirculated rhodium-containing solution is 20-150 ppm by mass.
- 15 2. The process as claimed in claim 1,
wherein
the rhodium-containing solution comprises the reaction products of the hydroformylation reaction as solvent and the rhodium concentration is set by means of the separation by distillation of the output from the hydroformylation reaction.
3. The process as claimed in claim 1,
wherein
the rhodium-containing solution comprises an inert solvent as solvent and the rhodium concentration is set by means of the separation by distillation of the output from the hydroformylation reaction.
- 25 4. The process as claimed in any of claims 1 to 3,
wherein
the rhodium-containing solution comprises the high boilers, aldehydes and alcohols formed in the hydroformylation reaction as solvent and the rhodium concentration is set by means of the proportion of aldehydes and alcohols via the separation by distillation of the output from the hydroformylation reaction.

5. The process as claimed in any of claims 1 to 3,
wherein

5 the rhodium-containing solution comprises the
aldehydes and alcohols formed in the
hydroformylation reaction and an inert solvent as
solvents and the rhodium concentration is set by
means of the proportion of aldehydes and alcohols
via the separation by distillation of the output
from the hydroformylation reaction.

10

6. The process as claimed in any of claims 1 to 5,
wherein

Texanol, dioctyl phthalate or diisononyl phthalate
is used as inert solvent.

15

7. The process as claimed in any of claims 1 to 6,
wherein

the rhodium catalysts comprise phosphite ligands.

20

8. The process as claimed in claim 7,
wherein

the rhodium catalysts comprise tris(2,4-di-t-
butylphenyl) phosphite as ligand.